

**PELECYPODA FROM THE ABATTOIRS BORE,
INCLUDING TWELVE NEW SPECIES.**

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PLATES VII. AND VIII.

INTRODUCTION.

The shells of which those cited in this paper form a part were collected by Sir Joseph Verco after the sinking of the Abattoirs Bore in 1919. Unfortunately, the material had been heaped beside the bore before any opportunity could be gained of ascertaining the depth from which the various fossils were obtained. It is impossible, therefore, to assign new species to any definite horizon; one can only remark that the fossils were taken from a depth between 400 and 500 feet, and are probably of Janjukian to Werrickoian age.

It has been interesting to compare many of the fossil species with the recent shells, and to observe in some cases gradations between the fossil and the recent. This is so in the case of *Nuculana crebrecoata* T. Woods and *Nuculana verconis* Verco; specimens intermediate between the two were found. In the case of *Limopsis beaumariensis* Chapman, the juvenile shells bear a marked resemblance to *Limopsis eucosmus* Verco.

Many thanks are due to Mr. F. Chapman for his assistance with difficult and new species.

***Nucula venusta*, n. sp.**

(Pl. vii., figs. 1 and 2.)

Solid, ventricose, inequilateral, ovate; umbo very prominent, inclined markedly to posterior; posterior margin short, curved evenly from dorsal to ventral border; anterior margin longer than posterior, curving evenly though slightly more sharply from dorsal to ventral border.

Interior of shell smooth, nacreous, ventral margin flattened, without denticulations; surface smooth, shining, with fine concentric growth-lines of varying strength.

Cardinal line with 17 teeth anteriorly, slightly uncinatè, and 6 posteriorly; teeth strong, high.

Length, 5.6 mm.; height, 4.8 mm.

Observations.—Unfortunately there are only two right valves of this beautiful little shell, which, though resembling it in some respects, differs markedly from *N. obliqua* Lamarck. The shell is much more tumid, especially in the umbonal region; it is more produced anteriorly, and has fewer teeth. The junction between the anterior and posterior row is worn in both specimens, making it impossible to tell the nature of the resilifer.

***Rochefortia macer*, n. sp.**

(Pl. vii., fig. 3.)

Thin, white, medium, somewhat flattened, inequilateral, posterior side longer than anterior and more sharply produced; anterior margin roundly curving to ventral border; interior of shell smooth, ventral border without denticulations; surface smooth, shining, with fine concentric striae of varying prominence. Hinge

with one strong cardinal tooth inclined posteriorly and one small, more depressed tooth inclined anteriorly.

Length, 11.1 mm.; height, 9.3 mm.

Rochefortia tellinoides, n. sp.

(Pl. vii., fig. 4.)

Small, thin, moderately convex, inequilateral; posterior margin slightly more sharply curving than anterior; umbones small, situated anteriorly. Hinge line without dentition, consisting of two small plates on either side of the umbo, leaving a space beneath the umbo.

Shell longer than high; interior smooth; adductor impressions and pallial line distinct; surface ornamented with fine concentric striae.

Length, 5.7 mm.; height, 3.6 mm.

Dosinia grandis, n. sp.

(Pl. vii., figs. 5 and 6.)

Large, thick, solid, several thick layers being revealed when the shell is broken; area inside pallial line thicker than that outside (this may possibly be due to weathering of specimens); outline of shell indefinite, as the shells have been broken in taking them from the bore; hinge plate very heavy, bearing in the right valve two strong, high cardinal teeth and a deep depression for the insertion of a large tooth of the left valve, and from the umbo to the posterior edge a sub-triangular depressed area followed by a triangular area for the ligament and a deep and narrow sulcus; lunule deeply situated; adductor impressions deep and clear. Sculpture consists of numerous thin, fine concentric striae.

Measurements cannot be accurately determined owing to fragmentary nature of specimens, but approximate to:—

Length, 70 mm.; height, 70 mm.

Gafrarium perornatum, n. sp.

(Pl. vii., figs. 7 and 8.)

Medium to small, solid, ovate, longer than high, posterior side produced somewhat; umbones high, acute, situated in front of the middle axis of the shell; both posterior and anterior borders roundly curving to the ventral margin.

Interior smooth, pallial sinus distinct. Surface of shell ornamented with numerous regular radial striae which, on certain umbo-ventral lines, are crossed by short oblique striae making V-shaped patterns, pointing both ventrally and dorsally. Also occasional and varying concentric striae of growth.

Type: Length, 9.6 mm.; height, 7.5 mm.

Larger specimen: Length, 13.5 mm.; height, 10.8 mm.

Antigona pernitida, n. sp.

(Pl. viii., figs. 1 and 2.)

Small to medium, sub-ovate, lengthened anterior-posteriorly; umbones prominent and acute, situated to the anterior side of the central axis; anterior margin roundly curving to the ventral border; posterior margin longer than anterior, curving sharply to ventral edge.

Shell moderately inflated, interior finely crenulate; surface closely ornamented with regular growth lines, the interspaces of which are crossed by fine radial costae.

The type is a small, neat shell which seems to differ from *A. dennanti* Chap. and Crespin in the greater number and prominence of its concentric growth lines, and the greater length of the valve in relation to its height.

A fragment of a larger shell of the same species also came up from the bore, dimensions being about twice those of the type.

Length, 12.3 mm.; height, 9.4 mm.

Pseudoarcopagia detrita, n. sp.

(Pl. vii., fig. 9.)

Small, solid, trigonal, moderately convex, particularly in the umbonal area; anterior side slightly longer and more rounded than posterior.

Interior of shell smooth, ventral border without crenulations; pallial line indistinct owing to the weathering of specimens. In right valve two cardinal teeth, and one lamellar tooth on anterior side—deep socket on posterior; in left valve two cardinal teeth fitting into corresponding sockets of right valve; one large posterior lateral tooth and two anterior laterals fitting into sockets of right valve.

Exterior of shell sculptured with numerous fine radial striae bifurcating towards the ventral border.

Length, 4.8 mm.; height, 4.2 mm.

Diplodonta solitaria, n. sp.

(Pl. viii., fig. 3.)

Holotype—one rather worn specimen only of left valve.

Orbicular, subequilateral, moderately convex; ligament groove long, narrow; umbo subcentral, slightly incurved; lunule lanceolate, slightly sunken. Valve with three cardinal teeth, one bifid; pallial line punctate marked; ventral margin rounded, smooth. Sculpture—fine concentric lines of growth with occasional broader lines.

Length, 22.8 mm.; height, 21.7 mm.

Codakia salebrosa, n. sp.

(Pl. viii., figs. 4 and 5.)

Very thick, rude, interior inside pallial line covered frequently with thick concretions; inequilateral, equivalve, sharply curving on anterior margin, semi-circular on posterior side. Ligament pit internal, long, deepening from umbo to top of posterior border; umbones acuminate, teeth embryonic or obsolete. Ventral margin without crenulations. Shell surface very rough with numerous concentric growth lines of varying prominence, crowded near the border.

Length, 27.5 mm.; height, 26.7 mm.

Cryptodon sinuatum, n. sp.

(Pl. viii., Fig. 6.)

Medium to small, thin, triangular-ovate, inequilateral, very swollen, particularly in the dorsal region; umbones prominent, high, placed a little in front of the central axis. Anterior border curved, lower half coming almost at right angles to the ventral margin, posterior part of shell with deep fold. Interior of valve smooth; ventral margin sharp, without crenulations; surface of shell with fine concentric striae of growth in varying prominence.

Holotype: One left valve only. Length, 8.1 mm.; height, 8.2 mm.

Solecortus subrectangularis, n. sp.

(Pl. viii., Fig. 7.)

Small, thin, inequilateral, posterior side longer and broader than anterior, oblong, very slightly gaping at both ends; posterior side about $\frac{2}{3}$ of the whole length; posterior dorsal line straight, nearly parallel with ventral margin; anterior dorsal margin inclined to horizontal; anterior margin more rounded than

posterior margin, which is nearly vertical. Umbo small. One strong cardinal tooth beneath the umbo; two lateral sockets in front and behind. Pallial line and adductor impressions indistinct.

Surface of shell rudely sculptured with concentric striae of growth crossed by fine bifurcating radial striae; umbonal area showing buff colour, ventral margin white.

Holotype: Left valve. Length, 7.7 mm.; height, 4.6 mm.

Corbula equivalvis, n. sp.

(Pl. viii., figs. 8 and 9.)

Solid, equivalve, inequilateral, ventricose, ovately-triangular, rounded anteriorly, beaked posteriorly, posterior side longer than anterior. Umbones prominent, incurved, especially in right valve; right valve with sharp teeth situated in anterior; left valve with large flattened tooth in posterior side of shell. Surface of shell sculptured with many fine concentric striae, varying in thickness and often discontinuous, particularly in centre of shell, where in one senile specimen a slight furrow is produced; posterior side carinated from umbo to ventral margin; sculpture behind the carina same as rest of shell. Pallial sinus and adductor impressions distinct.

Type: Length, 14.2 mm.; height, 8.4 mm.

Larger specimen: Length, 16.8 mm.; height, 9.3 mm.

LIST OF PELECYPODS OBTAINED FROM THE BORE.

Order PRIONODESMACEA.

Family NUCULIDAE.

Nucula obliqua Lamarck.
Nucula morundiana Tate.
Nucula venusta Hooper Woods.

Family NUCULANIDAE.

Nuculana woodsii Tenison Woods.
Nuculana crebrecostrata T. Woods.
Nuculana verconis Verco.

Family PARALLELODONTIDAE.

Cucullaea corioensis McCoy.

Family LIMOPSIDAE.

Limopsis beaumariensis Chapman.
Limopsis maccoyi Chapman.
Limopsis affinitalis Chapman.

Family ARCIDAE.

Lissarca rubricata Tate.
Arca navicularis Tate.
Arca (*Barbatia*) *pistachia* Lamarck.
Glycimeris convexa Tate.
Glycimeris tenuicostata Reeve.

Family PTERIIDAE.

Pinctada crassicardia Tate.

Family OSTREIDAE.

Ostrea hyotidoidea Tate.

Family TRIGONIIDAE.

Neotrigonia acuticostata McCoy.

Family PECTINIDAE.

Pecten consobrinus Tate.
Chlamys peroni Tate.
Chlamys antiaustralis Tate.
Amusium hochstetteri Zittel.
Hinnites corioensis McCoy.

Family SPONDYLIDAE.

Spondylus arenicola Tate.

Family LIMIDAE.

Austrolima bassi T. Woods (*Lima bassi*)

Family ANOMIIDAE.

Monia iona Grey.

Family MYTILIDAE.

Trichomya hirsuta Lamarck (*Brachyodontes hirsutus*).

Family THRACIIDAE.

Thraciopsis elongata May.

Family MYOCHAMIDAE.

Myodora ovata Reeve.
Myodora tenuilirata Tate.
Myodora corrugata Tate.

Family CLAVELLIDAE.

Humphreyia strangei Adams and Angas.

Family CUSPIDARIIDAE.

Cuspidaria subrostrata Tate.

Order TELEODESMACEA.
Family CRASSITELLITIDAE.

Crassitellites oblonga T. Woods.
Cuna polita Tate.

Family CARDITIDAE.

Cardita compta Tate.
Cardita preissi Minke.
Venericardia spinulosa Tate.
Venericardia pecten Tate.
Venericardia subcompacta Chapman and
Crespin.

Family CHAMIDAE.

Chama lamellifera T. Woods.

Family LUCINIDAE.

Lucina leucomorpha Tate.
Lucina affinis Tate.
Lucina projecta Tate.
Lucina nuciformis Tate.
Lucina fabuloides Tate.
Loripes icterica Reeve.
Codakia salebrosa H. Woods.
Divaricella quadrisulcata D'Orbigny.

Family DIPLODONTIDAE.

Diplodonta solitaria H. Woods.

Family CRYPTODONTIDAE.

Cryptodon sinuatum H. Woods.

Family LEPTONIDAE.

Lepton trigonale Tate.
Lepton crassum Tate.
Erycina micans Tate.
Montacuta sericia Tate.
Rocheffortia anomala Angas.
Rocheffortia donaciformis Angas.
Rocheffortia ovalis Tate.
Rocheffortia macer H. Woods.
Rocheffortia tellinoidea H. Woods.

Family GALEOMMIDAE.

Sportella jubata Hedley.

Family CARDIIDAE.

Cardium cygnorum Deshayes.
Cardium hemimeris Tate.

Family VENERIDAE.

Dosinia johnstoni Tate.
Dosinia grandis H. Woods.
Gafrarium perornatum H. Woods.
Macrocallista submultistriata Tate.
Antigona propinqua Tate.
Antigona striatissima Tate.
Antigona dimorphylla Tate.
Antigona pernitida H. Woods.
Clausinella subroborata Tate.
Bassina allporti T. Woods.
Callanaitis cainozoica T. Woods.
Paphia fabagelloides Tate.

Family TELLINIDAE.

Psammobia hamiltonensis Tate.
Psammobia equalis Tate.
Tellina masoni Tate.
Pseudoarccopagia detrita H. Woods.

Family SEMELIDAE.

Semele vesiculosa Tate.

Family SOLENIDAE.

Solecortus dennanti Tate.
Solecortus subrectangularis H. Woods.

Family MACTRIDAE.

Mactra howchiniana Tate.
Zenatiopsis angustata Tate.

Family CORBULIDAE.

Corbula ephamilla Tate.
Corbula equivalvis H. Woods.

Family SAXICAVIDAE.

Saxicava australis Lamarck.
Saxicava subalata Gatliff and Gabriel.

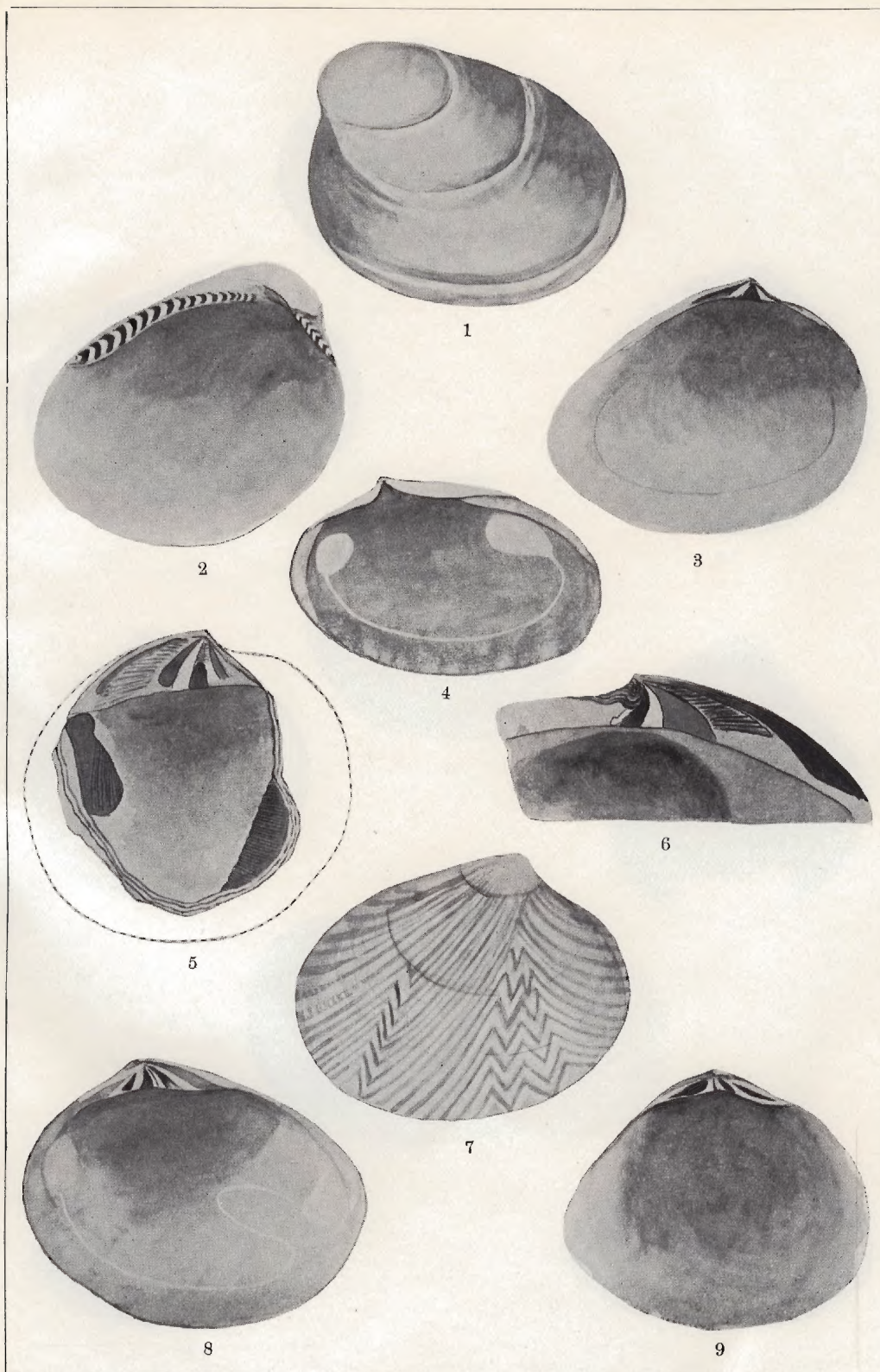
EXPLANATION OF PLATES.

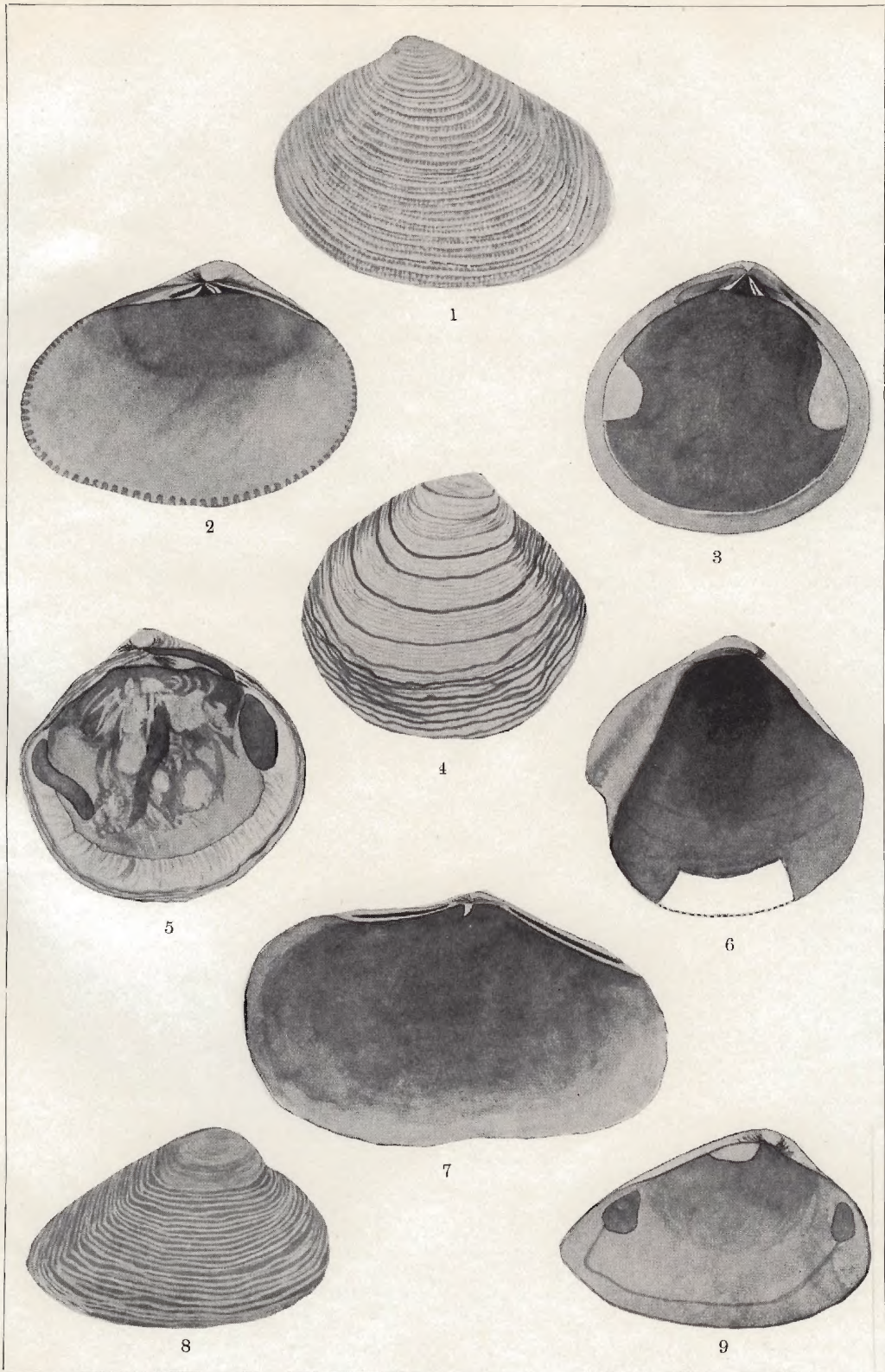
PLATE VII.

- Fig. 1. *Nucula venusta*, n. sp. X8.
Fig. 2. *N. venusta*, n. sp. X8.
Fig. 3. *Rocheffortia macer*, n. sp. X4.
Fig. 4. *R. tellinoidea*, n. sp. X8.
Fig. 5. *Dosinia grandis* (left valve), n. sp.
¾ natural size.
Fig. 6. *D. grandis* (right valve), n. sp.
Nearly natural size.
Fig. 7. *Gafrarium perornatum*, n. sp. X5.
Fig. 8. *G. perornatum*, n. sp. X5.
Fig. 9. *Pseudoarccopagia detrita*, n. sp. X9.

PLATE VIII.

- Fig. 1. *Antigona pernitida*, n. sp. X4.
Fig. 2. *A. pernitida*, n. sp. X4.
Fig. 3. *Diplodonta solitaria*, n. sp. X2.
Fig. 4. *Codakia salebrosa*, n. sp. X³/₂.
Fig. 5. *C. salebrosa*, n. sp. X³/₂.
Fig. 6. *Cryptodon sinuatum*, n. sp. X5.
Fig. 7. *Solecortus subrectangularis*, n. sp.
X7.
Fig. 8. *Corbula equivalvis*, n. sp. X3.
Fig. 9. *C. equivalvis*, n. sp. X3.





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